

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A wireless communication network for providing wireless communication to at least one user equipment (UE) comprising:

at least one network cell, wherein the at least one UE is located;

a base station located in the at least one network cell and associated with the network cell ~~for receiving uplink communication signals and transmitting downlink communication signals~~;

at least one remote emitter remotely located in the at least one network cell; and

a communication link between the base station and the at least one remote emitter;

wherein all of the any uplink communication signals signal from the at least one UE to the base station are is directly received and processed by the base station, and at least one of the at least one downlink communication signal from the base station are intended for the at least one UE is received, processed, and transmitted to the at least one UE by the at least one remote emitter and sent from the base station via the at least one remote emitter.

2. (Currently amended) The wireless communication network of claim 1, wherein the network is a spread-spectrum based, code division multiple access (CDMA) type network.

3. (Original) The wireless communication network of claim 2, wherein the network is a spread-spectrum based, wide band CDMA network.

4. (Currently amended) The wireless communication network of claim 1, wherein the at least one remote emitter comprises a remote downlink ~~emitter transmitter~~ (RDT) located at a site remote from the base station and contains no processing capability for ~~the any~~ uplink communication ~~signal from the at least one UE signals~~ to the base station.

5. (Canceled).

6. (Currently amended) The wireless communication network of claim 1, wherein the at least one network cell comprises a plurality of network cells; and

~~the uplink communication signals comprise at least one communication signal received by the base station from the base station directly receives an uplink communication signal from a~~

UE located in a network cell other than the cell to which the base station is associated.

7. (Original) The wireless communication network of claim 1, wherein the communication link between the base station and the at least one remote emitter comprises an out-of-band radio frequency (RF) communication link.

8. (Original) The wireless communication network of claim 1, wherein the communication link between the base station and the at least one remote emitter comprises a landline connected communication link.

9. (Original) The wireless communication network of claim 1, wherein the communication link between the base station and the at least one remote emitter comprises an internet protocol (IP) network.

10. (Original) The wireless communication network of claim 9, wherein the IP network is the Internet.

11. (Original) The wireless communication network of claim 9, wherein the IP network is a dedicated private data network for the communication link between the base station and the at least one remote emitter.

12. (Original) The wireless communication network of claim 1, wherein the at least one network cell is divided into a plurality of sectors for signal reception and signal processing by the base station, and the at least one remote emitter comprises at least one remote emitter assigned to each of the plurality of physical sectors.

13. (Original) The wireless communication network of claim 12, wherein the divided plurality of sectors of the at least one network cell comprise physical sectors of the base station.

14. (Original) The wireless communication network of claim 12, wherein the at least one remote emitter forms a part of a logical sector of the base station.

15. (Original) The wireless communication network of claim 1, wherein the at least one remote emitter processes the at least one downlink communication signal by receiving the downlink signal from the base station, performing physical layer processing of the downlink signal, and transmitting the processed downlink signal.

16. (Original) The wireless communication network of claim 15, wherein the physical processing of the downlink signal comprises increasing a data rate of the downlink signal.

17. (Canceled).

18. (Currently amended) The wireless communication network of claim 1, wherein the at least one remote emitter processes the at least one downlink communication signal by coding, interleaving, spreading, and scrambling the at least one downlink signal.

19. (Currently amended) The wireless communication network of claim 14, wherein the logical sector emits common channeling signals identical to those emitted by the plurality of physical sectors.

20. (Currently amended) A wireless cellular communication network for providing wireless communication to a plurality of user equipments (UEs) comprising:

a plurality of network cells;

a first remote emitter assigned to a first one of the plurality of network cells;

a second remote emitter assigned to a second one of the plurality of network cells;

a first base station assigned to the first network cell a first one of the plurality of network cells to receive uplink communication signals and transmit downlink communication signals;

a second base station assigned to the second network cell a second one of the plurality of network cells to receive uplink communication signals and transmit downlink communication signals;

the first base station is arranged to directly receive uplink communication signals from a first one of the plurality of UEs that is located in the first network cell, the first base station is further arranged to indirectly send downlink communication signals to the first UE via the first remote transmitter; and

the second base station is arranged to directly receive uplink communication signals from a second one of the plurality of UEs that is located in the second network cell, the first base station is further arranged to indirectly send downlink communication signals to the second UE via the second remote emitter.

at least one first remote emitter separately located from the base station and assigned to a first one of the plurality of network cells;

at least one second remote emitter assigned to a second one of the plurality of network cells;

~~a first communication link between the first base station and the at least one first remote emitter; and~~

~~a second communication link between the second base station and the at least one second remote emitter;~~

~~wherein all of the uplink communication signals to the first base station are directly received and processed by the first base station, and at least one of the downlink communication signals from the base station is received, processed, and re-transmitted by the at least one first remote emitter.~~

21. (Currently amended) The wireless cellular communication network of claim 20, further comprising a first managing tool assigned to the first network cell, wherein the managing tool dynamically and independently controls assignments of all the uplink and downlink communication signals to the first base station and the at least one first remote emitter.

22. (Currently amended) The wireless cellular communication network of claim 21, wherein the first managing tool further controls an assignment of uplink communication signals as directly received by to the second base station from a third one of the plurality of UEs that is located in the second network cell.

23. (Currently amended) The wireless cellular communication network of claim 21-22, wherein the first management tool is implemented at the first base station.

24. (Canceled).

25. (Currently amended) The wireless cellular communication network of claim 20, further comprising a downlink managing tool that determines availability of the ~~at least one~~ first remote emitter for downlink registration or access of a ~~the first~~ UE located in the first network cell.

26. (Currently amended) The wireless cellular communication network of claim 20, further comprising a managing tool that controls availability of the second base station to receiving uplink communication signals from a ~~the first~~ UE located in the first network cell.

27. (Currently amended) The wireless cellular communication network of claim 25, wherein the downlink managing tool determines the availability of the ~~at least one~~ first remote emitter for downlink registration or access of a ~~the first~~ UE located in the first network cell based at least on performance metrics of the ~~at least one~~ first remote emitter.

28. (Currently amended) The wireless cellular communication network of claim 25, further comprising a first communication link between the first base station and the first remote emitter, wherein the downlink managing tool determines the availability of the ~~at least one~~ first remote emitter for downlink registration or access of a ~~the first~~ UE located in the first network cell based at least on health metrics of the first communication link.

29. (Currently amended) The wireless cellular communication network of claim 25, wherein the downlink managing tool determines the availability of the ~~at least one~~ first remote emitter for downlink registration or access of a the first UE located in the first network cell based at least on performance metrics of the first base station.

30. (Currently amended) The wireless cellular communication network of claim 20, further comprising:

a first communication link between the first base station and the first remote emitter; and
a downlink managing tool that determines availability of the ~~at least one~~ first remote emitter for downlink communication with a the first UE based at least on a performance metric of the ~~at least one~~ first remote emitter, a performance metric of the first base station, and a health metric of the first communication link.

31. (Currently amended) A method for increasing user capacity and coverage area of a wireless communication network comprising:

detecting ~~an~~ first uplink communication signals directly from a first user of the network;
assigning the first user to a first designated area of the network;
directly receiving the first uplink communication signals directly from the first user to a base station ~~assigned to the designated area~~;
processing the first uplink communication signals at the base station;
detecting second uplink communication signals directly from a second user of the
network;

assigning the second user to a second designated area of the network;
directly receiving the second uplink communication signals from the second user to the
base station;
processing the second uplink communication signal at the base station;
preparing a downlink communication signals at the base station for transmission to a the
second user of the network;
assigning a remote emitter to the second designated area of the network or the base
station;
indirectly transmitting the downlink communication signals from the base station to the
second user via the remote emitter.
~~determining whether to use the base station or the remote emitter for transmission of the~~
~~downlink communication signal to the second user;~~
~~transmitting the downlink communication signal to the second user directly from either~~
~~the base station or the remote emitter based on the determining.~~

32. (Currently amended) The method of claim 31, ~~wherein the first user and the second~~
~~user are the same user~~ further comprising:
determining whether to use the base station or the remote emitter for transmission of the
downlink communication signals to the second users based on predetermined criteria; and
the indirectly transmitting the downlink communication signals comprises indirectly
transmitting the downlink communication signals from the base station to the second user via the
remote emitter based on the determining.

33. (Canceled) The method of claim 31, wherein the first user and the second user are different users.

34. (Original) The method of claim 31, further comprising:

providing a communication link between the base station and the remote emitter.

35. (Currently amended) The method of claim 31, wherein ~~determining whether to use the base station or the remote emitter comprises~~ the predetermined criteria comprise:
~~determining predetermined~~ loading conditions of the remote emitter and the base station.

36. (Canceled)

37. (Original) The method of claim 34, wherein providing a communication link between the base station and the remote emitter comprises:

routing signals between the base station and the remote emitter via an IP network.

38. (Currently amended) The method of claim 31, wherein the downlink communication signal comprises a digital signal, and remote emitter comprises a digital-to-analog converter for converting the digital downlink communication signals into ~~an~~ analog signals for transmission to the second user.

39. (Currently amended) The method of claim 32-38, wherein the remote emitter further comprises an integrated power amplifier and high power RF antenna device for transmitting the analog downlink communication signals to the second user.

40. (Original) The method of claim 39, wherein the integrated power amplifier and high power RF antenna device is implemented as a multilayer printed wiring board package.

41. (New) A wireless communication network comprising:
at least one network cell;
a base station located in the at least one network cell and associated with the network cell for receiving uplink communication signals and transmitting downlink communication signals;
at least one remote emitter remotely located in the at least one network cell; and
a communication link between the base station and the at least one remote emitter, the communication link comprises a internet protocol (IP) network that is a dedicated private data network for the communication link between the base station and the at least one remote emitter;
wherein all of the uplink communication signals to the base station are directly received and processed by the base station, and at least one of the downlink communication signals from the base station are processed by the at least one remote emitter and sent from the base station via the at least one remote emitter.

Amendments to the Drawings:

The attached sheets of drawings include changes to FIGs. 3, 7, 11, 17, and 18. In FIG. 3, lines (a) – (e) are more clearly shown and identified; in FIG. 7, reference 710 is now pointed to the “Forward Link Manager” block; in FIG. 11, references 1110, 1120, 1130, and 1140 have been added as described on line 28, page 22 through line 1, page 23; in FIG. 17, reference 1650 is shown to clearly identify the integrated power amplifier/antenna high power RF subsystem block; in FIG. 18, reference 1710 is shown to clearly identify the airline corporate feed structure block.

It is respectfully submitted that FIG. 2 should not be labeled as “Prior Art” because it is part of the invention. Specification, FIG. 2 shows a simulation used to verify an analysis of a practical capacity of a spread-spectrum based wireless network of the present invention.

Attachment: Replacement Sheets (5)